

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KEITH R. D'ALESSIO, ANDRES RIVERA, WILLIAM M. COTTER,
and IBRAHEEM BADEJO



Appeal No. 2005-0640
Application No. 09/430,289

ON BRIEF

Before OWENS, KRATZ, and TIMM, *Administrative Patent Judges*.
TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Claims 1-59 are pending in the Application. Claims 21-44, 51-55, 57, and 58 have been withdrawn from consideration. Claim 15 has been determined to be allowable if written in independent form. Claims 1-14, 16-20, 45-50, 56, and 59 remain rejected and are the subject of this appeal. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

INTRODUCTION

Claims 1, 45, and 46, the independent claims, are illustrative of the invention on appeal:

1. A combination including:
a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material, and
a 1,1-disubstituted ethylene monomer composition contained in said container.
45. A container containing an adhesive monomer composition,
comprising:
a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material, and
an adhesive monomer composition contained in said container.
46. A combination including:
a container comprising a polymeric resin matrix including at least one functionalized polymeric material, and
a 1,1-disubstituted ethylene monomer composition contained in said container.

The claims are rejected under 35 U.S.C. § 103(a). As evidence of unpatentability, the

Examiner relies upon the following prior art references:

Plambeck	2,791,504	May 7, 1957
Stehlik	3,704,089	Nov. 28, 1972
Walles	4,775,587	Oct. 4, 1988
Fehn	5,693,283	Dec. 2, 1997
Kvidtrud	5,785,178	July 28, 1998

The grounds of rejection maintained by the Examiner are as follows:

1. Claims 1-9, 16-18, 45-47, 56, and 59 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kvidtrud in view of Fehn;
2. Claims 10-14, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kvidtrud in view of Fehn and further in view of Stehlik; and

3. Claims 46-50 stand rejected under 35 U.S.C. § 103(a) over Kvidtrud in view of Walles.

We reverse the aforementioned rejections and make new grounds of rejection pursuant to our authority under 37 CFR § 40.50(b)(effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)). We rely upon the following prior art documentation:

Prior Art Of Record

Winter	US 3,524,537	Aug. 18, 1970
Stehlik	US 3,704,089	Nov. 28, 1972
Walles	US 4,775,587	Oct. 4, 1988

Admitted Prior Art, specification, p. 4, ll. 16-32.

Newly Cited Prior Art¹

Bauman et al. (Bauman)	US 4,764,405	Aug. 16, 1988
Lier et al. (Lier)	DE 4,109,105	Sep. 24, 1992
Ueda et al. (Ueda) ²	WO 96/38,346	Dec. 5, 1996
Maeda ³	JP 10-211,970	Aug. 11, 1998

11 Kirk-Othmer Encyclopedia of Chemical Technology 496 (Jacqueline I. Kroschwitz & May Howe-Grant eds., 4th ed. 1994)(Kirk-Othmer)

¹Copies of the foreign references and non-patent literature accompany our decision.

²We rely upon the U.S. equivalent patent, U.S. Patent 5,934,457, as the English language translation of this document. All citations are to the U.S. Patent.

³We rely upon and cite to the translation by FLS, Inc. accompanying this decision.

The new grounds of rejection we advance are as follows:

1. Claims 1-5, 8, 10, 11, 16, 18-20, 45, and 46 are rejected under 35 U.S.C. § 102(a) as anticipated by Maeda as evidenced by Kirk-Othmer.
2. Claims 1-6, 8, 10, 11, 16, 18-20, 45, and 46 are rejected under 35 U.S.C. § 103(a) as unpatentable over Maeda as evidenced by Kirk-Othmer.
3. Claim 9 is rejected under 35 U.S.C. § 103(a) as unpatentable over Maeda as evidenced by Kirk-Othmer as applied to claim 1 above and further in view of the Admitted Prior Art disclosed on page 4, lines 16-32 of the specification.
4. Claims 12-14 are rejected under 35 U.S.C. § 103(a) as unpatentable over Maeda as evidenced by Kirk-Othmer as applied to claim 1 above and further in view of Winter and/or Stehlik.
5. Claims 1, 4-8, 10, 11, 16-20, 45, and 46-48 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ueda in view of Bauman.
6. Claims 12-14 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ueda in view of Bauman as applied to claim 1 and further in view of Winter and/or Stehlik.
7. Claims 46-49 are rejected under 35 U.S.C. § 102(b) as anticipated by Lier.
8. Claim 50 is rejected under 35 U.S.C. § 103(a) as unpatentable over Lier as applied to claim 46 above and further in view of Walles.

OPINION

We reverse the rejections of the Examiner because the evidence relied upon by the Examiner is inadequate to establish a *prima facie* case of obviousness. With regard to the rejection over Kvidtrud in view of Fehn, the Examiner has read various teachings within Kvidtrud out of context. While Kvidtrud discloses that squeezable polymeric vials have been long used for adhesives such as cyanoacrylates (col. 1, ll. 29-37), Kvidtrud provides no details with regard to those specific vials, rather, Kvidtrud only describes details with respect to vials containing photocurable compositions not identified as cyanoacrylates. Fehn, as relied upon by the Examiner, does not provide any indication of whether the polymeric materials disclosed therein were known for use in containers for cyanoacrylates. Without such evidence it cannot be said that there is a suggestion to use the fluorinated container of Fehn to house cyanoacrylate adhesive. The required factual support for the Examiner's findings is simply lacking. Stehlik does not remedy the deficiencies of the rejection over Kvidtrud in view of Fehn. Nor does Walles remedy the deficiencies of Kvidtrud. We, therefore, conclude that the Examiner has failed to establish a *prima facie* case of obviousness with respect to the subject matter of claims 1-14, 16-20, 45-50, 56, and 59.

We make the following new grounds of rejection:

Rejection 1

We reject claims 1-5, 8, 10, 11, 16, 18-20, 45, and 46 under 35 U.S.C. § 102(a) as being anticipated by Maeda as evidenced by Kirk-Othmer.

We first focus on the independent claims, claims 1, 45, and 46. Each of these claims are directed to a container in combination with its contents.

With regard to the contents of the container, claims 1 and 46 require that the container contain a 1,1-disubstituted ethylene monomer composition while claim 45 requires that the container contain an adhesive monomer. As evidenced by Appellants' specification, cyanoacrylates are 1,1-disubstituted ethylene monomers (specification, p. 3, ll. 22-23).

With regard to the container composition, claims 1 and 45 require that the container comprise a polymeric matrix including at least one post-halogenated polymeric material. Claim 46 requires that the container comprise a polymeric resin matrix including at least one functionalized polymeric material. Claim 46 does not limit the timing of the functionalization. But, in any case, a container that has been surface fluorinated is post-halogenated as required by claims 1 and 45 and functionalized as required by claim 46.

As understood by one of ordinary skill in the art, Maeda describes a filled container in accordance with each and every limitation of claims 1, 45, and 46. The container contains a cyanoacrylate adhesive monomer composition (Maeda, ¶¶ 0001 and 0003, ll. 1-3) in accordance with content requirements of claims 1, 45, and 46. Moreover, one of ordinary skill in the art would have understood Maeda as describing a container comprising a post-fluorinated polymeric material in accordance with the container composition requirements of claim 1, 45, and 46. Maeda exemplifies treating a polyethylene container "with a fluororesin coating manufactured by Fluoro-Seal, Inc." (Maeda, ¶ 0026, ll. 5-8 and ¶ 0030). Those of ordinary skill in the art would

have understood that the reference to “a fluoro-resin manufactured by Fluoro-Seal, Inc.” is a reference to a post-fluorination process. This is evidenced by Kirk-Othmer’s discussion on Blow-Molded Containers (Kirk-Othmer, p. 496) wherein it is stated that Fluoroseal, Inc, “has generated a successful product line based on post-treating containers and other objects with elemental fluorine.” What Maeda conveyed to one of ordinary skill in the art at the time of the invention, was a process resulting in a post-halogenated polymeric container filled with a cyanoacrylate adhesive monomer composition. Maeda, therefore, taught a filled container embodying each and every limitation of claims 1, 45, and 46 to one of ordinary skill in the art. Note that Kirk-Othmer is used here to explain, but not expand on, the meaning of “a fluoro-resin manufactured by Fluoro-Seal, Inc.” as used in the Maeda reference. *See In re Baxter Travenol Labs.*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991)(When determining anticipation, “extrinsic evidence may be considered when it is used to explain, but not expand, the meaning of a reference.”).

Maeda further describes applying the coating to the inner surface of the container as required by claim 2 (Maeda, ¶ 0017). The coating is, therefore, in contact with the cyanoacrylate adhesive as required by claim 3.

As required by claim 4, the polymeric material of the container is a polyolefin. Maeda further states that polyethylene is most preferred and that either high-density polyethylene or low density polyethylene can be used (Maeda, ¶ 0024). We thus find claims 5 and 8 anticipated.

Maeda performs the fluorination process in order to increase gas impermeability and reduce curing of the adhesive in the container. The container also has other features intended to prevent curing. Moreover, Table 1 provides evidence of increased shelf-life as the contents of practical Example 1 underwent little viscosity change within the seven days of the accelerated aging test. It is reasonable to conclude that the container of Maeda inherently has the shelf-life required by claims 10 and 11. The burden is shifted to prove that the shelf-life of the filled container of Maeda is outside the claimed range. *See In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 432-33 (CCPA 1977).

With regard to claim 18, it is reasonable to conclude that the concentration of fluorine from the Fluoro-Seal process is higher in the surface region than in the sub-surface region because the fluorine atoms would have better access to the surface region during surface fluorination. The burden is shifted to Appellants to prove otherwise. *See In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 432-33 (CCPA 1977).

With regard to claims 19 and 20, due to the presence of hydrogen in polyethylene, it is reasonable to conclude that hydrofluoric acid would be present in the polymeric resin matrix upon surface fluorination. During fluorination, hydrogen is replaced by fluorine. Some of the released hydrogen would react with fluorine to form hydrofluoric acid (HF). The burden is shifted to Appellants to prove otherwise. *See In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 432-33 (CCPA 1977).

Rejection 2

Claims 1-6, 8, 10, 11, 16, 18-20, 45, 46, 56 and 59 are rejected under 35 U.S.C. § 103(a) as unpatentable over Maeda as evidenced by Kirk-Othmer.

As we explained above, Maeda describes a container with a post-fluorinated coating, the container being filled with cyanoacrylate. As Maeda suggests the use of both high and low density polyethylene and polypropylene, it would have been obvious to apply the surface fluorinated coating to a container formed from any of those polyolefins or to similar polyolefins as desired. We conclude, therefore, that with the subject matter of claims 1-6, 8, 10, 11, 16, 18-20, 45, and 46 there is a case of *prima facie* obviousness under 35 U.S.C. § 103(a).

Rejection 3

Claim 9 is rejected under 35 U.S.C. § 103(a) as unpatentable over Maeda as evidenced by Kirk-Othmer as applied to claim 1 above and further in view of the Admitted Prior Art disclosed on page 4, lines 16-32 of the specification.

Maeda, as explained above, describes increasing the gas impermeability of a high density polyethylene container by post-fluorinating the container and using the container to hold cyanoacrylate adhesive monomers. As evidenced by the Admitted Prior Art discussed on page 4, lines 16-32 of the specification, it was known in the prior art to construct containers suitable for holding cyanoacrylate-type components from laminates including an inner layer of high density polyethylene (HDPE) and a outer primer layer of polyethylene imine. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further increase the gas impermeability of the container of Maeda by adding an outer layer of polyethylene imine to the container of Maeda.

Rejection 4

Claims 12-14 are rejected under 35 U.S.C. § 103(a) as unpatentable over Maeda as evidenced by Kirk-Othmer as applied to claim 1 above and further in view of Winter and/or Stehlik.

As explained above, Maeda discloses a post-fluorinated container filled with cyanoacrylate adhesive monomer. Maeda focuses on the container and does not provide details with regard to the specific cyanoacrylate composition of the adhesive. However, cyanoacrylate

adhesives having an alkyl carbon length of at least six carbons including 2-octyl cyanoacrylate (listed as octyl-2-cyanoacrylate in col. 4, l. 41 of Winter) were conventional cyanoacrylate adhesives. Winter and Stehlik also indicate that these cyanoacrylates were used in medical applications such as for joining tissue in surgery (Winter, col. 1, ll. 28-41; Stehlik, col. 1, ll. 57-58) at the time of the invention. It would have been obvious to one of ordinary skill in the art to package one of these conventional cyanoacrylates in the container of Maeda for use as a medical adhesive. In order to use these adhesives for medical use they must be sterilized (Stehlik, col. 1, ll. 57-58; Winter, col. 1, l. 67 to col. 2, l. 4). It, therefore, would have been obvious to one of ordinary skill in the art to sterilize the container as taught by either Stehlik or Winter in order to obtain the packaged medical grade product.

Rejection 5

Claims 1, 4-8, 10, 11, 16-20, 45, and 46-48 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ueda in view of Bauman.

Ueda describes a container filled with cyanoacrylate adhesive. The body 1 of the container is formed from polyethylene, polypropylene, polyethylene terephthalate, nylon, or the like (Ueda, col. 4, ll. 34-37). Ueda is silent with regard to post-halogenation of the container body, however, Bauman describes a coating process which results in a post-halogenated surface. This process is performed to increase the barrier properties of thermoplastic substrates such as substrates made from high density polyethylene, low density polyethylene, polypropylene, polyethylene terephthalate, and polyamide (nylon)(Bauman, col. 3, ll. 2-10), i.e., the substrate

materials suggested by Ueda. It would have been obvious to one of ordinary skill in the art to have preformed the treatment of Bauman on the container body 1 of Ueda in order to increase the barrier properties of the container of Ueda.

With regard to claims 10 and 11, it is reasonable to conclude that the shelf-life of the container would be at least about thirty months as claimed due to the increased barrier properties. The burden is shifted to Appellants to prove otherwise. *See In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 432-33 (CCPA 1977).

With regard to claim 17, Bauman further suggests the addition of chlorine to the treatment gas to enhance the adhesion of the barrier coating subsequently applied after post-halogenation (Bauman, col. 3, ll. 32-36). It would have been obvious to one of ordinary skill in the art to have added chlorine to the treatment gas as suggested by Bauman and, therefore, to have post-chlorinated the polymeric material, in order to enhance adhesion.

With regard to claim 18, it is reasonable to conclude that the halogen concentration would be higher on the surface than in the sub-surface region due to the easier access of the gas to the surface region. The burden is shifted to Appellants to prove otherwise. *See In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 432-33 (CCPA 1977).

With regard to claims 19 and 20, it is reasonable to conclude that halogen containing acid would be present due to the reaction of free radicals of hydrogen and halogen which would be present during halogenation. The burden is shifted to Appellants to prove otherwise. *See In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 432-33 (CCPA 1977).

With regard to claims 47 and 48, Bauman suggests the addition of the claimed gases to further enhance the performance of the coating (Bauman, col. 3, ll. 36-43). It would have been obvious to one of ordinary skill in the art to have added the suggested gas to enhance performance as suggested by Bauman.

Rejection 6

Claims 12-14 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ueda in view of Bauman as applied to claim 1 above and further in view of Winter and/or Stehlik.

Ueda suggests a container filled with cyanoacrylate adhesive monomers. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the specific cyanoacrylates of Winter and Stehlik and sterilized the container for medical use as such was known as evidenced by Winter and Stehlik as explained in Rejection 4.

Rejection 7

Claims 46-49 are rejected under 35 U.S.C. § 102(b) as anticipated by Lier.

Lier describes providing containers, which are used to house cyanoacrylate adhesives, with acid groups (Lier, p. 2, l. 19 to p. 3, l. 2 and p. 3, l. 18 to p. 4, l. 2). Lier describes the use of acid groups -SO₃H, -SO₂H, -CO₂H as preferred (Lier, p. 4, ll. 7-8). The acid groups may be bonded in different ways to the molded piece, including post-treatment of finished containers (Lier, p. 4, ll. 11-13). We note that the claims are not limited to containers formed by post-functionalization and, therefore, all of containers described by Lier are encompassed by the claims (Lier, p. 4, l. 13 to p. 5, l. 1).

Rejection 8

Claim 50 is rejected under 35 U.S.C. § 103(a) as unpatentable over Lier as applied to claim 46 above and further in view of Walles.

As discussed above, Lier describes sulfonating containers to be filled with cyanoacrylate monomer compositions. Lier, however, is silent with respect to creating sulfonamide groups. Walles indicates that it was known in the art to neutralize sulfonated containers with ammonia to prevent the reaction of the sulfonic acid groups with the materials placed in the container (Walles, col. 2, ll. 41-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to neutralize the sulfonic acid groups of Lier in order to make the container less reactive as such was well known in the art as evidenced by Walles.

CONCLUSION

To summarize, the decision of the Examiner to reject claims 1-14, 16-20, 45-50, 56, and 59 under 35 U.S.C. § 103(a) is reversed. We, however, make new grounds of rejection per our authority under 37 CFR 37 CFR § 41.50(b) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)). Therefore, claims 1-14, 16-20, 45-50, 56, and 59 remain rejected. Claim 15 is not currently subject to a rejection.

This decision contains new grounds of rejection pursuant to 37 CFR § 41.50(b) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21

(September 7, 2004)). 37 CFR § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."


37 CFR § 41.50(b) also provides that the appellant, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

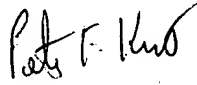
(1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .


(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

REVERSED

37 CFR § 41.50(b)


TERRY J. OWENS
Administrative Patent Judge


PETER F. KRATZ
Administrative Patent Judge


CATHERINE TIMM
Administrative Patent Judge

)
)
)
)
)
) BOARD OF PATENT
) APPEALS
) AND
) INTERFERENCES
)
)
)
)
)

Appeal No. 2005-0640
Application No. 09/430,289

Page 17

HUTCHISON & MASON PLLC
PO BOX 31686
RALEIGH, NC 27612